

Appl. No. 09/886,589
Arndt, dated November 17, 2003
Reply to Office Action of October 6, 2003

REMARKS/ARGUMENTS

Claims 1-24 are presented for Examiner Pratt's consideration.

Pursuant to 37 C.F.R. § 1.111, reconsideration of the present application in view of the following remarks is respectfully requested.

By way of the Office Action mailed October 6, 2003, Examiner Pratt rejected claims 1 – 24 under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over Hansen et al. Patent Number 5,998,032 in view of Murji et al. Patent Number 5,387,385. This rejection is respectfully **traversed** to the extent that it may apply to the presently presented claims.

Examiner Pratt notes correctly on page 2 of his Office Action that Hansen fails to teach a density and degree of compaction. Examiner Pratt then cites Murji as teaching these two characteristics and states that one skilled in the art would be motivated to modify Hansen to get the results currently claimed by Applicants. Applicants do not find any teaching in Murji which would motivate one skilled in the art to combine these two references. Murji actually demonstrates the opposite effect, i.e., decreasing density to increase absorption performance.

Murji teaches starting with a "board" (about 1/2 to 1/3 the thickness of the final absorbent sheet) that is ground and then the fibers are reformed into a very low density absorbent sheet. This is done because the initial board was too stiff and exhibited inadequate absorbency. Table 1 illustrates this with a Kraft fiber board having a density of from between 0.525 to 0.535 g/cc. It is well known in the art that this density level is only achieved via a very high level of hydrogen bonding between the fibers to make a stable strong board material. It is also well known in the art that the hydrogen bonding is achieved via pressure, temperature and moisture levels that create a surface tension condition between the fibers. See the attached reference article entitled: "PULP TECHNOLOGY AND TREATMENT FOR PAPER" by James d'A Clark, copyright 1985 pages 42-44. It is well known in the art that these dry board materials, that are to be ground (fiberized), have a very low moisture level, less than 5%.

Murji then forms the ground board into a low density sheet (air laid) which is about 1/10 the density of the initial board. Murji further teaches that this low density sheet is calendered (compressed) via two or more stages up to a density which is about 90% of the initial board (see Table 3). Murji teaches density values of from between about .25 to .55 g/cc. It is well understood by those skilled in the art that this compression is accomplished without promoting hydrogen bonding between the fibers. Otherwise, one would return to the original board conditions. Murji is trying to obtain a soft and pliable absorbent sheet from an initial stiff absorbent sheet.

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Murji then teaches the need to increase the wicking rate, increase the fluid uptake and reduce the stiffness by perf-embossing and embossing hinges into the sheet. This is accomplished by creating a pattern of low density regions surrounded by connected regions of high density. Murji states that both of these treatments compress the sheet in the regions between flutes and at the location of each embossing tooth. However, Murji data shows just the opposite effect. The average density of the sheet from the two-stage compaction does not increase in average density but instead decreases in average density. This is clearly shown by comparing the data in Tables 3 and 4, wherein the density of the final sheet is about 1/2 that achieved during the calendering process. Again, it is well known in the art that perf-embossing and working a fibrous sheet, which is not hydrogen bonded, will lower the average density. If the absorbent sheet contained hydrogen bonds, the opposite effect would occur and the average density would increase due to selected compression regions.

In view of the above reasoning, it would not be obvious to one skilled in the art to combine Hansen and Murji and obtain Applicants' invention. The combination of Hansen and Murji still does not teach Applicants' invention. Murji teaches away from Applicants' invention and does not induce hydrogen bonding between the fibers. Accordingly, Applicants' claims 1-24 are patentably distinct over the combination of Hansen and Murji and should be allowed at this time.

Furthermore, Examiner Pratt has stated that his position is that Murji inherently teaches compacting to a compressing factor of at least about 45 because Murji teaches applicants' claimed density. Applicant would like to point out that Murji does not teach compacting the absorbent sheet to a compression factor of at least about 45. That value appears in Applicants' claim 9, 12 and 17. Furthermore, Murji does not teach a releasable dynamic force of at least 60 psi. That value appears in Applicants' claims 5, 15, 22 and 24. Lastly, it is not obvious from reading Murji that further compression of the absorbent sheet (yielding a density of from between 0.5 to 1.0 g/cc) makes for a more desirable or efficient absorbent member. In view of the above arguments, Applicants do not believe that the combination of Hansen and Murji teach their invention. Accordingly, Applicants believe that pending claims 1-24 are patentably distinct and non-obvious and should be allowed at this time.

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The undersigned may be reached at: (920) 721-2455.

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Respectfully submitted,
VICTOR M. GENTILE ET AL.

By: Thomas J. Connally
Thomas J. Connally
Registration No.: 28,404
Attorney for Applicant(s)

CERTIFICATE OF FACSIMILE

I, Lanette Burton, hereby certify that on November 17, 2003, this document is being transmitted via facsimile to the United States Patent & Trademark Office, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, to RightFax number (703) 872-9310.

By: Lanette Burton
Lanette Burton

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